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## PROCEEDINGS OF SCIENTIFIC SOCIETIES.

**Natural Science Association of Staten Island.**—January 13.—The Secretary read an invitation to attend the funeral of the Rev. Samuel Lockwood, of Freehold, N. J. Also the following extract from a communication by Mr. Ira K. Morris, which was adopted as the sentiment of the meeting, ordered spread upon the minutes and a copy transmitted to the family of the deceased :

It is with profound sorrow that we learn of the death of Professor Samuel Lockwood, of Freehold, N. J., on Tuesday last. By this sad event our Association has lost a very warm friend, and we shall feel most keenly the absence of his kindly encouragement and intelligent criticism. For years past he has taken a deep interest in all our proceedings.

Mr. Wm. T. Davis exhibited specimens of and read the following paper on Staten Island Harvest Flies.

Dr. Harris, writing of harvest flies, or locusts, in his "Insects Injurious to Vegetation," says of *Cicada canicularis* Harris:

"During many years in succession, with only one or two exceptions, I have heard this insect on the 25th of July for the first time in the season, drumming in the trees, on some part of the day between the hours of ten in the morning and two in the afternoon. It is true that all do not muster on the same day; for at first they are few in number, and scattered at great distances from each other; new-comers, however, are added from day to day, till in a short time, almost every tree seems to have its musician, and the rolling of their drums may be heard in every direction."

This *Cicada* is much less common on Staten Island than in Massachusetts, where Dr. Harris heard it sing so regularly on the 25th of July. It is plentiful, however, up the Hudson River, in northern New Jersey and in parts of Pennsylvania. On our Island its place is taken in point of numbers, by *Cicada tibicen* L., (*C. pruinosa* Say), a larger insect with a much more impetuous song. The species first appears about the second week of July, and I have recorded its song in the past as follows:

July 15, 1879, July 17, 1885, July 12, 1887, July 14, 1888, (three individuals), July 9, 1889, July 9, 1890, July 11, 1891, July 11, 1892.

*Cicada tibicen* L., also sings after dark on warm nights, but it is a lazy, languid song, as if the insect were tired, and it totally lacks the

impetuous vigor of the noon-day outburst. In the warm nights during the first part of August, 1887, it was no uncommon occurrence for this insect to give a short *z-ing*. Up to 8 p. m., they often sing, and I have heard a *Cicada* and a katy-did in adjoining trees. On Aug. 17, 1888, long after the sun was down, they kept up their songs, each one desiring apparently, to be the last singer, for their voices are raised in envy and the males have no love for one another. They often sing while flying about a tree in wavy lines, and once I detected another *Cicada* fly out of a tree and join the singer. It was no doubt a female.

They continue musical as late as the end of September, occasionally in considerable numbers I have heard them as late as October 3rd, both in 1885 and 1886. In the first mentioned year, they were exceedingly plentiful. When singing loudly the abdomen vibrates quite fast, but gradually lessens as the song subsides.

The dry pupa shells of this insect may be found attached to the bark of a variety of isolated trees, upon the roots of which the larvæ have apparently fed. On the 26th of July, 1889, at eighteen minutes to 5 p. m., I saw a harvest fly come from its pupa case. The legs (tarsi excepted) the prothorax and folded wings, were of a grass green color, the wings being particularly bright. The eyes were also green, the ocelli golden and the mesothorax and abdomen of a brassy appearance. In twenty minutes the wings were of full size, but flimsy, bending with the breeze. The wings were held out flat, on the same plane with the dorsal surface, when drying, and the genitalia are protruded.

The third and largest species of *Cicada* that has been found on the Island is *C. marginata* Say. The wings of a specimen, spread in the usual way, expand nearly five inches. This insect has also been taken at Yaphank, on Long Island, by Mr. A. C. Weeks; and Mr. Wm. H. Ashmead, who kindly examined my *Cicadas*, says that the insect occurs in Pennsylvania and about Washington. On our Island but one specimen has been found. It was discovered on a small post oak on a sand dune, near Mariners' Harbor, on July 19, 1892, while Mr. Beutenmüller and I were looking for galls. It was late in the afternoon and the insect had evidently but a short time before emerged from the pupa-case, which we found at the base of the tree. In the same summer a second pupa-shell was found on a black-jack oak, growing in dry sandy ground at Watchogue.

The only other harvest fly that has been collected on the Island is the red eyed periodical *Cicada*, or "Seventeen year Locust," of which a more detailed account, in connection with this locality, will be given at some future meeting.

Mr. Thos. Craig read a paper on A New Dictyosphaerium.

In Wolle's description of this genus he describes the cells as green, and egg or kidney shaped, united in a globose hollow family, involved in a gelatinous integument.

He describes four species: *D. ehrenbergianum* Naeg., *D. pulchellum* Wood, *D. reniforme* Bulnh., and *D. hitchcockii* Wolle. The one under consideration does not agree in description with any of the above species. It was found along with other algae, tangled in the roots of water cress in a pond in the woods back of the Moravian Cemetery.

Mr. Walter C. Kerr exhibited a carefully prepared drawing of the trunk of a red maple tree and read a paper on Aerial Roots on *Acer rubrum*, L.

Near the brook flowing from Logan's spring swamp east of Silver Lake stands a red maple, about fourteen inches in diameter, and on its north side the bark has been stripped, probably by splitting from a wound received while young, forming a bare triangular space extending nearly across the base of the tree and having its apex thirty-six inches from the ground. The wounded bark has healed and its edges are covered with a smooth, gray, corky layer presenting the rounded appearance common to the edges of such scars. The wood being uninjured remains in a good state of preservation, while the entire tree is in vigorous growth.

It stands on a slight rise, about twenty-five feet south of the creek, in rich, rocky, moist ground, within eight feet of a low spot, which, though swampy in the wet seasons, is never overflowed.

The nearest trees are white oak and hop hornbeam, nine and fifteen feet distant, with no others within forty to fifty feet. Undergrowth is absent, and there is no reason to suppose that earth or stones have ever been heaped about it. Its branches twenty feet from the ground and thus there are no conditions of darkness or exceptional moisture to encourage the development of aerial roots.

About six inches below and to the right of the apex of the triangular wound there springs from the cambium of the healed bark two roots, each one-half inch in diameter. They extend downward across the scar at an angle of about forty-five degrees; the upper being twelve inches and the lower seventeen inches long. They have decided root form and are covered with rootlets, the upper bearing about twenty and the lower about fifty.

The development of rootlets proceeds almost wholly from the lower surface of the roots, their length being from two to twelve inches, many being about six inches long, and all profusely branched, while

from the upper surface only a few stunted rootlets rise, sparsely branched. The whole appearance of these roots presents a strong contrast to the branches or young shoots of the red maple, leaving no doubt as to their character. Their tendency toward the earth is marked, though not reaching it by some eighteen inches.

What should cause these aerial roots is by no means evident, unless the scar has at some time been covered with a loose layer of bark under which the roots have grown. They serve no purpose and it would seem as though they could scarcely survive. As they are now alive, it seems best not to molest them for the purpose of determining their exact character and mode of growth until after further development has been observed.

Mr. Arthur Hollick presented specimens of fossil leaves from Arrochar.

Mr. L. P. Gratacap remarked upon a series of lower Helderberg and Hudson fossils, found in drift boulders by Mr. Hollick at Arrochar. They included finely preserved specimens of *Spirifera perlamellosa* Hall; *Strophodonta beekii* Hall; *S. woolworthiana* Hall; *Strophomena rhomboidalis* Wahl.; *Cælospira concava* Hall, and *Leptaena sericea* Sowerby, besides fragmentary remains of a *Pterinea* and bryozoöns.

**Boston Society of Natural History.**—February 7th.—The following paper was read: Prof. Edward B. Poulton: Theories of Evolution. A discussion upon the subject of Professor Poulton's paper followed.

February 21.—The following papers were read: Professor Charles R. Cross: Physics of color mixture, with experiments; Professor E. S. Morse: A recent advance in color printing by a photo-mechanical process.

SAMUEL HENSHAW, *Secretary*.

**New York Academy of Sciences, Biological Section, Feb. 12.**—The following papers were read: 1. "The Morphology and Significance of the Variations of the Biceps flexor cubiti," by Professor Geo. S. Huntington. 2. "Our Conception of a 'Species' as modified by the Theory of Evolution," by Professor N. L. Britton. 3. "Reversal of Cleavage in a Sinistral Gasteropod," by Mr. H. E. Crampton, Jr. 4. "On the History of the Archoplasm in the Spermatogenesis and Fertilization of Lumbricus," by Mr. Gary N. Calkins.

BASHFORD DEAN, *Rec. Sec.*

**The Biological Society of Washington.**—Feb. 10.—The following communications were read: Dr. C. Hart Merriam, A Remarkable New Rabbit from Mexico; Dr. C. W. Stiles, A Parasite of Man New to the American Fauna.

February 24.—The following communications were read: Mr. M. B. Waite, The Structure and Method of Opening of the Anthers of the Pomeæ; Mr. B. T. Galloway, The Winter Coloration of Evergreen Leaves; Mr. L. O. Howard, Further Notes on Spider Bites.

FREDERIC A. LUCAS, *Secretary*.

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## SCIENTIFIC NEWS.

From the Annual Report of the Essex Institute for 1893, we learn the following facts. The library has increased during the year by the addition of 3,317 volumes, 8,348 serials, and 7,416 pamphlets. These include the library of the late Dr. Henry Wheatland and the foreign exchanges of the Peabody Academy of Science, the libraries of the two institutions being now united. The total investments of the Institute now amount to \$100,188.44, and the membership amounts to 325.

Giovanni Passerini, Professor of Botany in the University of Parma and well known for his studies on Aphides, died April 17, 1893.

Francis P. Pascoe, an English Coleopterist, died at Brighton, England, June 20, 1893, in his 80th year.

Dr. Robert Ritter von Schaub, who has studied the anatomy of the Mites, died in Vienna, Oct. 21, 1893.

Dr. A. K. Edward Baldamus, the ornithologist, died in Wolfenbüttel, Brunswick, Oct. 30, 1893, aged 81.

Robert Bentley, the botanist, died January, 1894. He was born at Hitchin, Herts, March 25, 1821. For many years he was professor of botany in the London Institution and examiner in botany to the Royal College of Veterinary Surgeons of England; lecturer on botany at the medical colleges of the London, Middlesex and St. Mary's